While disasters, such as earthquakes, floods, or even terrorist attacks, can't always be prevented, we can be prepared. Planning helps reduce the risks to people and property.

The City of Seattle's emergency preparedness efforts have two essential goals: protecting lives and restoring essential services. Whether the disaster is an earthquake or a terrorist attack, the City will be prepared to react. This "all-hazards" planning emphasizes individual and community preparedness, and ensures that Seattle and its regional, state and federal emergency partners can work together.

The City's approach to emergency preparedness falls into four general categories. Each of these categories describes things you can do at home, and that we do at the City:

- **Mitigation:** These are the things you can do before an emergency happens, like replacing an unstable fireplace or retrofitting buildings.
- **Preparedness:** These are the things you do to get ready for an actual emergency, like preparing an emergency kit or practicing fire drills with your family. The City also prepares supplies and does emergency drills.
- **Response:** This is how you respond to the emergency. For example, if you're at home during an earthquake, you respond by getting away from windows and under a strong piece of furniture. The City also has plans for how to respond.
- **Recovery:** These are the things you do after the emergency to get back to normal. You might need to sweep up broken glass or fix cracks in the walls. The City will also be cleaning up and getting roads fixed so people can go back to work safely.

The Nisqually earthquake, which happened on Feb. 28, 2001, did significant damage to many buildings in Seattle, as well as the Alaskan Way Viaduct. Since then, the City has increased its emergency preparedness efforts in ways that you can read about below.

There's also a lot you can do to prepare your family and protect your property. To learn more about what you can do to be ready, visit Seattle Emergency Management online at: http://www.seattle.gov/emergency_mgt/.

Mitigation:
Mitigation includes a range of actions: retrofitting buildings and bridges; adopting building codes aimed at current and planned development; replacing dangerous structures, like the Viaduct; business contingency planning; and educating the public.

Here are some highlights of Seattle's mitigation efforts:

- Seattle Public Utilities (SPU) has been working to make water facilities safe from earthquakes for more than 15 years. More than 20 major facilities, including many above-

ground storage tanks and pump stations, have been upgraded. SPU also conducted separate studies and upgrades for dams and other structures. The upgrades implemented before the Nisqually Earthquake helped protect the SPU water system during that quake.

- Since the next earthquake might be worse than Nisqually, SPU designed seismic upgrades and new facilities to meet or exceed code requirements.

- More than $20 million has been invested in the first phase of the bridge seismic retrofit—more than 20 pedestrian and auto bridges have been improved.

- SPU has developed a model to learn how individual facility's performance might affect overall water system performance in case of an earthquake. This helps SPU decide which facilities need to be fixed first. Additional actions that SPU are considering include:
    - Using valves to isolate some of SPU's water tanks and reservoirs, so broken pipelines don't completely drain them;
    - Covering the Myrtle, Beacon, Volunteer, West Seattle, and Maple Leaf reservoirs;
    - Installing new instruments and using new procedures so that if there is significant pipeline damage, it doesn't drain the system;
    - Using flex hose to bridge broken water mains or to support areas without sufficient water pressure to fight fires;
    - Seismically upgrading vulnerable facilities that have not yet been upgraded; and
    - Using tougher pipeline design standards so that as pipelines get replaced, the system will become more seismically rugged over time.

- SPU and the Fire Department are working to install high-volume connections at some reservoir sites, so firefighters will still have water to fight fires, even if the system is damaged.

- The $167-million Fire Facilities and Emergency Response Levy passed in November of 2003. Over the next nine years, this program will rebuild, or seismically retrofit, 32 of Seattle's 33 fire stations. Through the levy, the City will also:
    - Install state-of-the-art communications equipment in these stations so firefighters can operate after an earthquake and communicate with other emergency personnel throughout the region;
    - Build a new Emergency Operations Center (EOC) and Fire Alarm Center. The EOC serves as the hub of the City's emergency response. The building, often referred to as the Fire Station 10 Project, will be the most seismically secure structure within the Seattle city limits. It will withstand the most severe seismic events and operate for 72 hours under emergency conditions;
    - Provide a new seismically secure base for the Seattle Fire's Urban Search and Rescue Team equipment;
    - Build emergency water firefighting capability so firefighters will be able to get water where it is most needed after an earthquake. This project includes installing special hydrants at nine reservoirs and water storage tanks and establishing pumps so fire engines can draw water directly from Elliott Bay, Lake Union, and Lake Washington.

    - Provide emergency power for six community centers around the city that serve as emergency shelters during a disaster;
    - Provide caches of emergency supplies – such as cots, blankets, shelter kits, nurse kits, and emergency radios – for these shelters; and
    - Build a large fireboat that can pump water to land fires if water mains break during earthquakes or other disasters;

- Seattle has also taken steps to ensure its police stations are seismically secure:
    - In 2003, we opened the new Southwest Precinct, a seismically secure precinct station in Delridge, which covers the southwest sector of the city. With its own communications, jail, and fueling capability, this station will be able to operate independently as a mini-police headquarters for West Seattle if the area is isolated after an earthquake.
    - We've completed seismic upgrades to the East Precinct Station on Capitol Hill that will enable the precinct station to operate after an earthquake and communicate with emergency responders throughout the region.
    - After the Nisqually Quake, we enhanced earlier seismic improvements to the North Precinct Station in North Seattle and the South Precinct Station in Southeast Seattle.
    - The West Precinct Station, built just before the Nisqually Quake, was constructed as a seismically secure building and includes state-of-the-art communications equipment.

- Additionally, Seattle is moving City employees into seismically secure facilities. We have:
    - Sped up the schedule to move all employees and customer-oriented departments out of historic buildings and into Seattle Municipal Tower, Justice Center, City Hall, or equally safe leased space.
    - Created a more seismically secure facility to house specialized units of the Police Department and critical police support functions.

- In 2004, Seattle adopted new building and residential codes that reflect a greater understanding of our region, including the Seattle Fault and the subduction zone off the Washington coast.

- For more than a year, the Seattle Police Department has assessed critical infrastructure facilities, sites, systems and special events within the city. Those assessments included the private and public sector.

- In 2004, Seattle upgraded its wireless data network used by police officers, firefighters, and other field personnel. As a result of this upgrade, public safety has been improved as police officers have a more reliable, robust, and capable system.

- Seismic retrofit or upgrade projects for Parks Department include repairs at Magnuson Park's Building 30. Seismic repairs to be completed in the coming year include South Lake Union's Armory Building and the Queen Anne Pool.

- The City is also working to help people retrofit their homes. We offer a quicker building permit process, professional training for builders and contractors, and self-help workshops, tool-lending libraries and technical assistance for homeowners who want to do the work themselves. To date:
    - 3,200 homeowners have attended a seismic? retrofit class.
    - 700 permits to perform seismic home retrofit work have been approved.
    - More than 448 builders, contractors, engineers and architects have completed retrofit training at the UW.
    - The Office of Housing has approved 25 grants for low- to moderate-income Seattle homeowners; all retrofits have been completed.
    - The Mayor's Office for Senior Citizens is using federal funding to retrofit the homes of low-income seniors. The homes of 160 elderly and low-income Seattle seniors will be retrofitted through the new Home Retrofit Grant Program; 100 have been completed to date.

Preparedness

It's a simple fact – preparing beforehand makes it easier to handle emergencies. Preparation includes developing plans, educating employees and the public on those plans, training and evaluating those plans, and having the proper equipment. The following highlights some of our preparedness efforts since February 2001:

- In 2002, Mayor Greg Nickels created an Emergency Preparedness Bureau to better coordinate critical functions necessary to manage emergencies.

- Between 2002 and 2004, Seattle received approximately $36 million in federal security grants. This grant money is being used to secure facilities, equip and train first-responders, improve communications and more. While the grants support homeland security, the results benefit all of Seattle's preparedness efforts.

- In May 2003, Seattle participated in TOPOFF2, the largest international anti-terrorism field exercise in history. More than 1,200 police, fire, and other city employees participated in this weeklong event, a congressionally-mandated exercise to test local, regional, state and federal responses to terrorism.

- In 2004, Seattle participated in several training exercises, which tested the City's response to various scenarios, including regional power and water outages, an explosive device outside Safeco Field, and a cruise ship attack.

- The Seattle Department of Transportation has trained bridge inspectors and emergency response people and equipment ready to inspect bridges and roadways after an earthquake or similar event.

- Transportation and Police personnel have coordinated road closures and detour route plans.

- In May 2003, Seattle launched its Business Emergency Network, designed to assist businesses in their response to and economic recovery from emergencies.

- Seattle Police regularly collect and update information on public and private buildings and streets throughout the city.

- Seattle is improving its information management systems, so that those working at the emergency operations center, department operation centers and field command posts can get the information they need in a timely and meaningful way.

- We've expanded the amount of emergency food and water rations stored at work sites.

- We've expanded the Seattle Disaster Seattle Disaster Aid & Response Teams (SDART), the City of Seattle's neighborhood preparedness program. This program helps people prepare to be self-sufficient for three days after a serious disaster, when 911 emergency responders may not be available. Before the 2001 Nisqually earthquake, Seattle had 280 neighborhood-based SDART teams – as of February 2005, it boasts 455.

Response
Response to an emergency describes how we react to a disaster – as it's happening and immediately afterward. How we respond depends a lot on the mitigation and preparedness that happens in the years before.

These responses include all aspects of City government. For example, after a large earthquake or similar emergency, the Emergency Operations Center is activated and staffed by City departments. Real and practice activations over the years have helped improve our response capabilities. Human Services case managers will contact their vulnerable clients after an emergency to find out if they are safe and if they need anything. Fire engines and trucks from each fire station will go out on "damage-assessment" routes, where they will look for dangerous situations and buildings, trapped victims, fires, major damage to utilities, building damage and evaluate bridge conditions.

Recovery
The recovery phase of an emergency is when you do all the things necessary to return to normal, such as clean-up and repairs. Depending on the magnitude of the emergency, it can take days, weeks or years to recover.

- The Business Emergency Network (BEN), launched in 2003, will help businesses during both the response and recovery phases of an emergency. During response, BEN enables businesses to receive information directly from the City's Emergency Operations Center and provide feedback about what they need. During recovery, businesses throughout the Central Puget Sound can use BEN to share information and resources among public- and private-sector organizations.

- Transportation personnel has pre-planned detour routes for vulnerable areas, as well as the tools, equipment and materials necessary to quickly bring damaged bridges and roads back to service. This enables all other recovery actions (for example, utility repairs, food supplies and medical care) to begin as quickly as possible.